Water from the Tap

2190
~~5264~~

SERVICES WE USE 3

~~2170~~

WATER FROM THE TAP

"Fill the kettle, Tom," said his mother. "It is nearly tea-time."

Tom watched the water as it ran from the tap. "I wonder how many other people living in Birmingham are filling their kettles for tea," he said. "I wonder where all the water comes from?"

The story which answers Tom's question starts many miles out over the ocean.

There, the sun shines on the sea. Some of the water turns to water-vapour, which rises and forms clouds.

The clouds are blown by the wind. When they reach the mountains of Wales they are forced upwards into colder air. The cold air turns them back into water which falls as rain.

Date 25.7.05
11642

The rain sinks into the ground. It comes out again in springs and runs down the mountain-side in streams and then in a river.

This is what part of the Elan Valley in Wales looked like. The river runs through the valley.

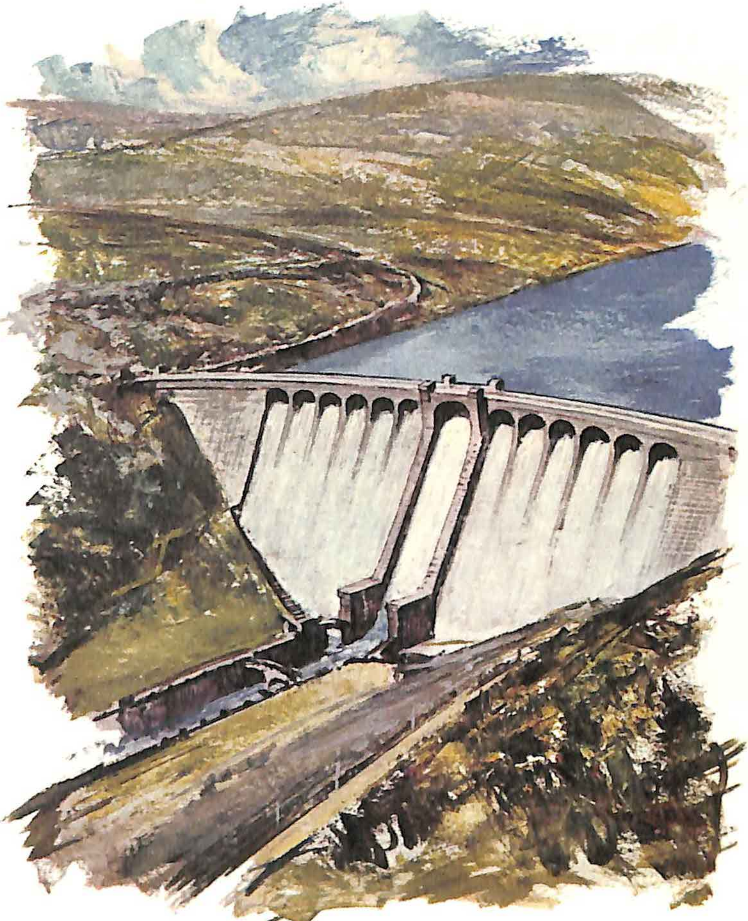
Then the engineers came and built a great dam across the valley. The water is trapped, and the valley has become a reservoir.

The reservoir holds nearly 8,000 million gallons of water. More is wanted for the city of Birmingham.

There are two other dams further up the valley. The reservoir at Pen-y-gareg holds over 1,300 million gallons. The Craig Goch reservoir holds over 2,000 million gallons.

In the next valley is the newest and biggest reservoir. This is the Claerwen reservoir. It holds more than 10,500 million gallons.

Birmingham is a very large city. Over 1¼ million people live there, and there are many large factories. All the people need water, and some of the factories use huge amounts of water every day.

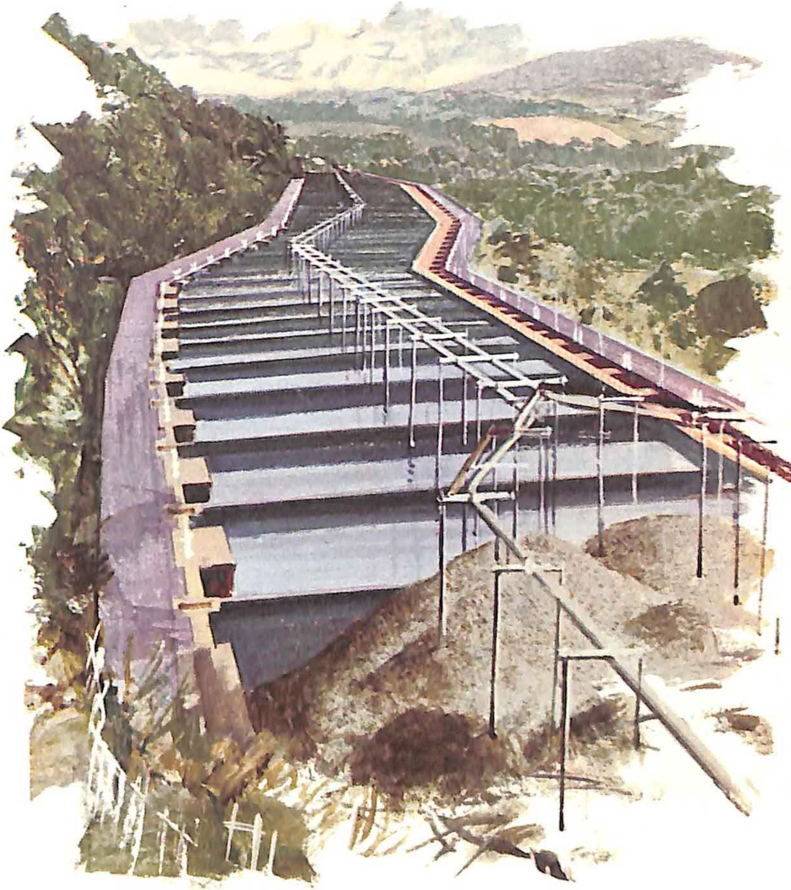


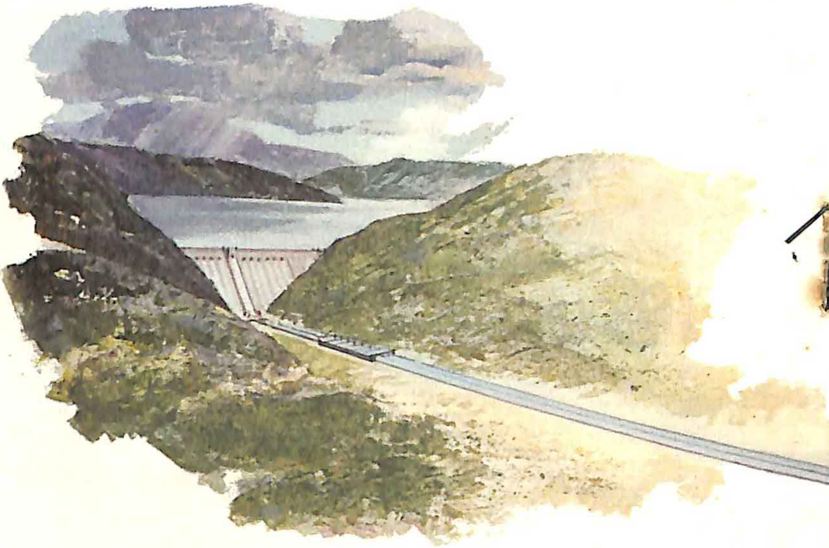
Before the water reaches Tom's tap, it has to be made pure. When it is in the reservoir there are tiny bits of peat and dirt in it. There are also germs.

The sun, shining on the water, kills some of the germs. The dirt is taken out at filter-beds.

Filter-beds are built like big, shallow trays. There is a layer of gravel at the bottom and a layer of sand at the top.

There are thirty filter-beds cleaning the water from the Elan Valley.





Above, you can see the rain falling on the mountains. Can you see the reservoir and the filter-beds?

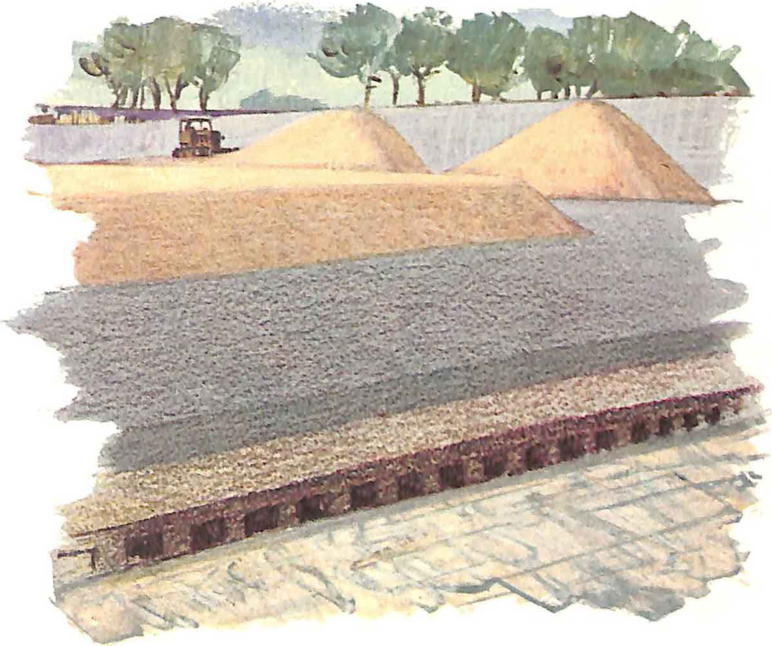
Below is the city of Birmingham with its thousands of houses and big factories.

EDUCATION
BANIPUR

How is the water cleaned? It flows on to the filter-beds and sinks slowly through the sand and gravel. As it filters through, the dirt sticks to the sand and the gravel and pure water runs out at the bottom into pipes.

When the sand gets dirty, the filter-beds are cleaned one at a time. The water is stopped, and a layer of sand is dug out and washed. Then it is put back to be used again.

Chemicals are put into the water to kill any germs which might be left.



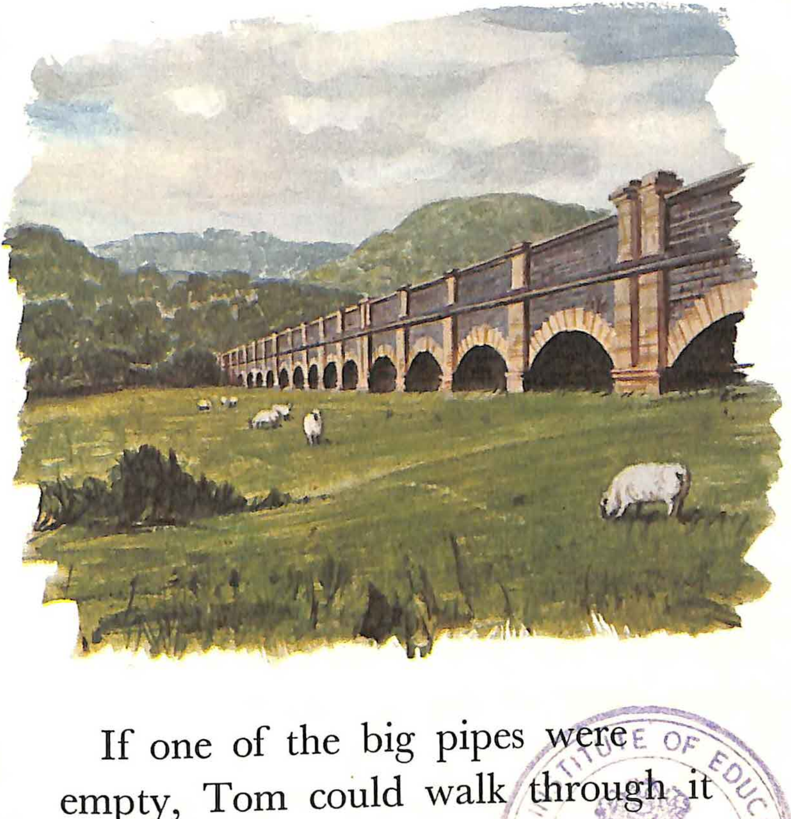
This picture shows a new filter-bed being made. The sand and gravel is spread in layers.

Date 25.7.05
11642
Library
Calcutta

Now the water is clean enough to be sent on its 73½-mile journey to Birmingham. It flows through the aqueduct.

The aqueduct is a channel lined with bricks and covered over, making a tunnel. This tunnel is 8 feet high and 7½ feet wide. It can carry 75 million gallons of water a day.

In places, where the aqueduct has to cross valleys, the water travels through big pipes carried on bridges. There are four pipes. Two are 3½ feet wide and two are 5 feet wide.



If one of the big pipes were empty, Tom could walk through it without stooping!

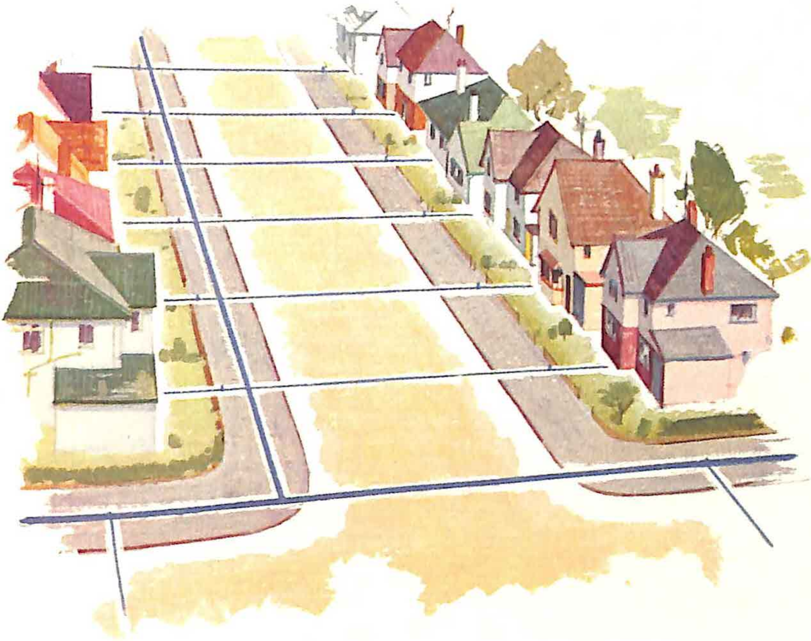
STATE INSTITUTE OF EDUCATION
BANIPUR

There is no need to pump the water on its long journey to Birmingham. It runs downhill all the way. From the Elan Valley to Birmingham it falls 169 feet.

The aqueduct ends near Birmingham. Then it is filtered again to make sure that it is quite clean.

The water then runs through the mains under the city streets. These are still big pipes, but much smaller than those of the aqueduct.

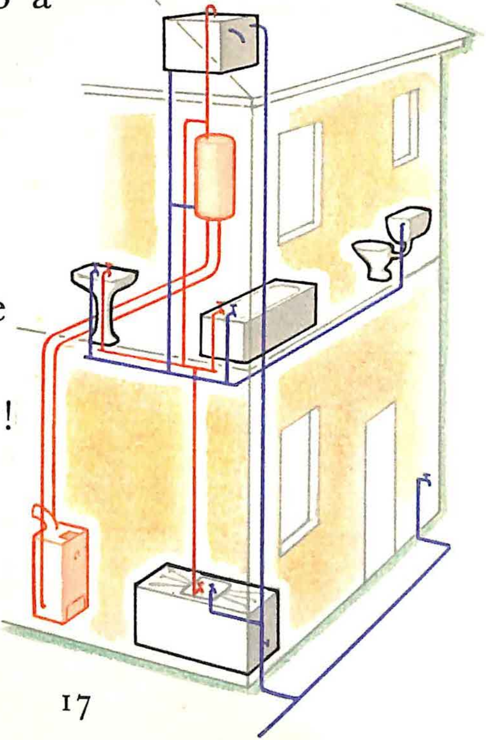
Pumps force the water along these mains, to some parts of the city.



From the mains, smaller pipes branch off, taking water to the taps in the houses and factories.

Some of the water comes straight to Tom's tap. But some goes to a tank near the top of his house. From here it runs to a boiler in the kitchen where it is heated for his bath.

Tom's house has its own small reservoir!



THINGS TO DO

1. Take two jam-jars. Place a funnel of white blotting paper in the neck of each. Into the first jar pour some water taken from near the bottom of a pond or puddle. Into the second, pour water taken from the tap.

   Now look at the result. Why is the tap-water blotting-paper cleaner than the other?

2. Write down as many uses for water as you can think of.

THINGS TO FIND OUT

1. About how many gallons of water are there altogether in the four Birmingham reservoirs?

2. Find out where *your* water supply comes from.

3. Where do people who live in lonely country places get their water from?

4. Where do people in London, Liverpool and Manchester get their water from?

© Kenneth Nuttall 1964
First published 1964

Printed in Great Britain by Taylowe Ltd, Maidenhead

SERVICES WE USE

by Kenneth Nuttall

ILLUSTRATED BY W. G. MORDEN

1 Letters by Post
2 Coal for the Fire
3 Water from the Tap
4 Savings from Waste
5 Gas for Cooking
6 Waterways on Land
7 Road Accident
8 News for All

LONGMANS GREEN & CO LTD
48 Grosvenor Street, London W1